

**WORK PLAN**  
**FOR**  
**WORK ASSIGNMENT NO. SERAS-130**  
**CABO ROJO**  
**May 2, 2011**

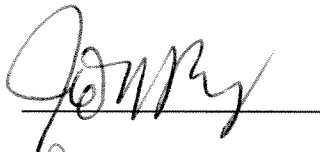
**WORK PLAN  
CABO ROJO**

**Prepared for  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)/  
ENVIRONMENTAL RESPONSE TEAM (ERT)**

**Date:** May 2, 2011  
**Contract No:** EP-W-09-031  
**Assignment No.:** SERAS-130

**Approval:**

**Task Leader**



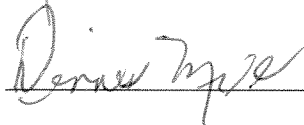
**Date:** 5/2/2011

**Deputy Program Manager**



**Date:** 5/6/2011

**Program Manager**



**Date:** 5/6/2011

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<b>Work Assignment Number:</b>	<b>SERAS-130</b>
<b>Work Assignment Title:</b>	<b>Cabo Rojo</b>
<b>Work Assignment Manager:</b>	<b>Jeff Catanzarita</b>
<b>Lockheed Martin SERAS Task Leader:</b>	<b>Jon McBurney</b>
<b>Duration:</b>	<b>April 7, 2011 through September 30, 2012</b>
<b>Contract Number:</b>	<b>EP-W-09-031</b>
<b>Site ID:</b>	<b>A244</b>

## **INTRODUCTION**

**Purpose.** Under this work assignment (WA), Scientific, Engineering, Response and Analytical Services (SERAS) contract personnel will provide technical support to the Environmental Protection Agency/Environmental Response Team (EPA/ERT) and EPA Region II to conduct a preliminary remedial investigation (RI) in the town of Cabo Rojo, Puerto Rico (PR). The objectives of the RI are to confirm or negate possible sources of groundwater contamination and to collect groundwater samples for a RI Risk Assessment (RA). Labor hours and costs have been included for Tasks 1 and 2.

**Background.** The site consists of a ground water plume in Cabo Rojo, PR where there is no identified source(s) of contamination. The public water system (PWS) is threatened by a groundwater plume that exhibits the presence of the chlorinated solvents tetrachloroethene (PCE) and trichloroethene (TCE). The aquifer is the main source of potable water for the municipality of Cabo Rojo. The PWS has been threatened with the presence of different contaminants forcing the local publicly owned treatment works (POTW) to close approximately nine wells in the last 10 years, losing a valuable resource. Currently, the PWS consists of six wells and three of the wells contain PCE and TCE below the maximum contaminant level (MCL) for drinking water. Groundwater samples collected at three potentially responsible party (PRP) locations revealed the presence of PCE and TCE at concentrations as high as 310 parts per billion (ppb). PCE and its breakdown products have also been detected in the aquifer at lower concentrations.

**Assumptions.** Assumptions concerning the scope of work, deliverables and task dates and cost were made on the basis of existing knowledge of the site and similar work done at other sites. New information and data, additional tasks and events outside SERAS control may result in revisions to the approach and schedule proposed in this work plan (WP). Changes in project schedule, SERAS project priorities, and resource availability may also affect the specific details of this WP. The costs estimated to complete this project (including but not limited to labor, travel, materials, subcontractors, and analyses) may change as the project evolves.

If site conditions differ from the plan, investigators will determine the appropriate course of action with the concurrence of the Task Leader (TL) and Work Assignment Manager (WAM) in the field (e.g., altered sampling methods, alternate sampling locations, etc.). Any changes to the sampling procedures outlined below will be recorded on a Work Assignment Field Change Form and signed by the WAM. Site-specific assumptions are as follows:

1. The field effort will begin during the week of May 22, 2011 or June 6, 2011 and will be completed in a maximum of 5 working days.
2. Analysis of soil gas samples is to be treated as screening data. Samples of groundwater, if collected by means other than temporary well point, will be treated as definitive data for later use in the RI-RA.
3. During the initial field mobilization, water and soil samples will not be collected; therefore, laboratory analysis costs have not been included in the cost estimate. Costs have been included only for the analysis of SUMMA canister confirmation samples. A WA amendment will be

- required before laboratory analysis of soil or water samples can be accomplished.
4. All Federal holidays will be observed unless otherwise authorized by the WAM.

## TECHNICAL APPROACH

There are four main data quality objectives (DQOs) associated with this project. These DQOs will guide the sampling design and the methods used. The data generated by this sampling program will be used to:

1. Determine or negate potential sources for the ground water contamination based on soil-gas (SG) sampling to locate elevated volatile organic compound (VOC) vapor concentrations, specifically PCE, TCE and cis-1,2-dichloroethene (cis-1,2-DCE). The benchmark to be used to assess the presence or absence of contamination will be based on the limit of detection (LOD) study for the Voyager portable gas chromatograph (GC).
2. Collect current groundwater data for the creation of a conceptual site model (CSM) of the groundwater regime from pre-established monitoring wells and drinking water wells to answer RI-RA objectives. Federal drinking water MCLs will be used as benchmarks for groundwater sampling. When a federal MCL does not exist for a contaminant of concern (COC), the New York State Department of Environmental Conservation (NYSDEC) drinking water standards.
3. Determine VOC levels in soils at or near suspected source locations. The New York State Part 375 soil cleanup objectives for the protection of groundwater will be used as the benchmarks.
4. Along with historical data, the CSM will be created for use with the RI.

**Task 1: Project Administration.** The SERAS Task Leader (TL) will schedule, organize and manage the project. The following documents will be developed under this WA: WP, Uniform Federal Policy – Quality Assurance Project Plan (UFP-QAPP) and Health and Safety Plan (HASP). The TL will be responsible for procuring subcontractors for utility markouts and drilling/sampling. All numerical data will be imported into the project-specific Scribe database. Upon notification from the WAM, requesting property owners will be placed on the LM insurance certificate within 15 calendar days.

**Task 2: Soil Gas Sampling.** SERAS personnel will conduct a comprehensive SG investigation in an attempt to locate possible sources of PCE/TCE groundwater contamination. Approximately 25 sub-slab and 35 subsurface soil gas ports will be installed. Soil gas samples will be collected in 1-liter (L) Tedlar bags and screened on-site using a field portable Voyager GC system for PCE, TCE and cis-1,2-DCE. SERAS personnel will collect grab soil gas samples at a rate of 10 percent (%) into SUMMA canisters from locations chosen by the WAM. All subsurface soil gas locations will be documented using global positioning system (GPS) technology.

**Task 3: Soil Sampling.** If a significant source of PCE, TCE and/or cis-1,2-DCE is detected during the soil gas investigation, SERAS personnel will be prepared to collect a maximum of 20 soil samples using direct push technology to a depth of no greater than 20 feet. Each sample core will be screened using photoionization detector (PID) or flame ionization detector (FID). The sections of the cores that indicate the presence of elevated VOCs will be sampled using Terra Core samplers and placed into pre-weighed 40-milliliter (mL) VOA vials with magnetic stir bars. Samples will be submitted to the ERT/SERAS Laboratory in Edison, New Jersey (NJ) for VOC analysis. Preliminary results will be due in seven calendar days. Final validated data will be required within 10 business days after receipt of the final data package from the laboratory. All soil VOC data will be validated by SERAS QA/QC Chemists for use in the RI/RA.

**Task 4: Water Sampling.** SERAS personnel will sample pre-established monitor wells and drinking water wells as chosen by the WAM using low-flow procedures. Drinking water wells equipped with SERAS-130-DWP-050211

sample ports will be sampled using grab sample techniques. A maximum of 50 groundwater sample locations is planned. It is assumed that this task will not be completed during the initial field event. All groundwater samples will be submitted to the ERT/SERAS Laboratory in Edison, NJ for VOC analysis.

A portion of the samples, as designated by the WAM, will be submitted to an EPA designated laboratory for other parameters including but not limited to Target Analyte List (TAL) metals, semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and pesticides. Diffuser bags may be installed for future monitoring.

**Task 5: Chemical Analyses.** The UFP-QAPP will be written such that the ERT/SERAS laboratory in Edison, NJ will be the laboratory performing all analyses for this project. This may be changed at a later time by the WAM and will result in changes to the scope, budget and QAPP. At this time, no labor hours have been included in the cost estimate for laboratory analyses. These will be added as needed based on field investigation. Prior to the collection of the samples, SERAS personnel will provide the WAM with labor estimates for the analysis and validation of the samples. Only soil and groundwater samples will be validated. Any samples collected and analyzed on-site as screening samples will not be validated.

**Task 6: Conceptual Site Model.** A SERAS geologist will begin to construct a CSM based on United States Geological Services (USGS) resources, site field data and any other available data.

**Task 7: Reports.** A draft trip report including text, map, and figures will be prepared and submitted to the WAM. A final trip report will be submitted within 5 working days following receipt of comments from WAM. Hard copies as well as electronic copies of the report will be provided to the WAM for distribution to EPA Region II.

In conformance with the requirements of the SERAS contract, all environmental data will be provided in an electronic data deliverable (EDD) compatible with SCRIBE. All deliverables and other relevant project information will be submitted in electronic format to the appropriate ERT-Information Management System (IMS) website.

**Quality Assurance Project Plan.** Project management, measurement, assessment and usability elements applicable to this WA are included in the corresponding site-specific UFP-QAPP.

**Standard Operating Procedures.** Standard Operating Procedures (SOPs) and Administrative Procedures (APs) relevant to this WA are included in the site-specific UFP-QAPP. SERAS personnel will adhere to the following health and safety SOPs for this WA:

SOP #3001, *Health and Safety Program Policy and Implementation*

SOP #3012, *Health and Safety Guidelines for Activities at Hazardous Waste Sites*

SOP #3020, *Inclement Weather, Heat Stress and Cold Stress*

## **STAFFING PLAN AND SCHEDULE**

**Staffing Plan.** The TL will maintain contact with the WAM to provide information on the technical and financial progress of the project. This will commence with the issuance of the WA and project scoping meeting. Activities will be summarized in appropriate format for inclusion in SERAS monthly reports.

The WA for this project was received on April 7, 2011. The WP was placed on hold until an ERT site reconnaissance could be performed. The SERAS Task Leader met with the WAM on April 20, 2011 to discuss the findings of the ERT Site visit. The WP was prepared following this meeting. The project will  
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be completed by September 30, 2012.

The Quality Assurance/Quality Control (QA/QC) Officer, Health and Safety Officer (HSO), Deputy Program Manager and Program Manager are responsible for auditing and guiding the project team, reviewing/auditing the deliverables and proposing corrective action, if necessary, for nonconformity to the WP, UFP-QAPP or HASP.

The following SERAS personnel will work on this project:

<u>Personnel</u>	<u>Responsibility</u>	<u>Level</u>
Program Manager	Document Review; Project Oversight	****
Deputy Program Manager	Document Review and Technical Support	***
Project Engineer	Site Supervision/Sample Management	****
Environmental Scientist	TL; Project Management/Technical Support/ Sample Management	***
Environmental Scientist (Air)	Site Sampling	***
Environmental Technician (Air)	Site Sampling	#
Sr. GC/MS Chemist	On-Site VOC Screening	****
Hydrogeologist	CSM Preparation	****
Environmental Technician	Site Sampling	#
Business Manager	Cost Estimate Preparation	***
QA/QC Officer	QAPP and WP Review/ Validation Oversight	****
Health and Safety Officer	PPE Selection/ HASP Review/H&S Oversight	****
Purchasing/Procurement	Purchase Materials and Services	***
Geographical Information	Preparation of Maps/Figures	**
Administrative Support	Administrative & Logistical Support	**
Clerical	Document Preparation/Distribution/Archive	#

Additional SERAS technical and/or administrative personnel and subcontractors may work on this project as needed.

**Schedule of Activities.** The anticipated schedule of activities is as follows:

<u>Deliverable ID</u>	<u>Item</u>	<u>Date</u>
130-001	UFP-QAPP	5 working days prior to field work.
130-002	WP	May 2, 2011
130-003	HASP	5 days prior to field work
NA	Field Activities	Week of May 22, 2011 or June 6, 2011
130-004	Preliminary Data	7 working days after receipt of samples
130-005	Analytical Report	10 working days after receipt of data package
130-006	Draft Trip Report	20 working days after receipt of Final Validated Data
130-007	Final Trip Report	5 working days after receipt of comments from WAM.
130-008	CSM	To Be Determined

All project deliverable and task dates are estimates based on information available at the time of WP completion. New information, additional tasks and events outside SERAS control may result in revisions to these dates.

**Training and Conference/Meeting/Seminar Attendance.** In the course of performing the above tasks, SERAS personnel may attend training offered by the EPA such as safety training, training for procedural changes made by the EPA or training offered by outside vendors of specific equipment or instrumentation. Specific training will be authorized in advance by the Project Officer and approved by the Contracting Officer. Attendance at a technical conference, meeting, or seminar to perform or support WA activities will be authorized in advance by the Project Officer and approved by the Contracting Officer. For the ERT to successfully fulfill their mission to share and disseminate scientific information, SERAS biologists will provide technical support to prepare (and present as necessary) technical papers/posters at scientific meetings or conferences.

#### **LEVEL OF EFFORT AND COST PROJECTIONS**

The estimated cost, including labor, travel, materials, vendor services and equipment to complete all Tasks for this WA is given in the attached cost summary sheet. Video documentation, photo documentation, computer graphics and support, report preparation and purchasing support may be required to accomplish WA objectives. Labor hours for these activities have been included in the cost estimate.

Travel Assumptions are as follows:

Number of trips from Edison NJ to Cabo Rojo, PR.	1
Number of days per trip	5
Number of personnel per trip	5

**Vendor Services.** Geoprobe operation and utility clearance vendor services will be required to complete WA tasks at an estimated cost of \$25,000.